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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,116	07/18/2003	Roland Meier	031211-082	1638

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EXAMINER

LEE, TOMMY D

ART UNIT	PAPER NUMBER
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2625

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/622,116	Applicant(s) MEIER ET AL.	
	Examiner Thomas D. Lee	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


 THOMAS D. LEE
 PRIMARY EXAMINER

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/8/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 9 and 10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 9 recites: "Program which when loaded on or running on a computer initiates the computer to carry out the process according to claim 1." The recited program is an example of functional descriptive material comprising computer programs or algorithms that impart functionality when employed as a computer component (i.e., executable code; becomes one with the computer, causes the computer to perform certain acts or functions). Functional descriptive material must be embodied on a *computer readable medium* to impart its functionality (MPEP 2106.IV.B.1(a)).

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Claim 10 recites: "Computer storage media with a program according to claim 9."

As mentioned above with respect to claim 9, a computer *readable* medium must be recited. A computer *storage* media might merely be a sheet of paper, upon which is printed a computer program.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the *non-idealized* image reproduction system" (emphasis added) in lines 6-7 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the non-idealized image reproduction is intended to refer to an image reproduction system recited in base claim 1. Claim 13 depends from claim 8.

Claim 12 recites the limitation "the first derivation of the function" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim. There is no recitation of a "first derivation" in any of claims 1, 3 and 4, from which claim 12 depends, and thus it is unclear what "first derivation" refers to.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,696,839 (Siegeritz).

Regarding claims 1 and 2, Siegeritz discloses a process for the processing of image data which represent color values of an image, to achieve reproduction of the image by an image reproduction system, comprising: a) receiving the image data which represent first positions in a first color space (calculating color values for description of initial color solid (column 5, lines 66-67), calculating color values for description of target color solid (column 6, lines 1-2)); b) transforming the first positions into transformation positions which represent positions in a second color space; and modeling with a model image reproduction system a response of the image reproduction system to the image data such that the model image reproduction system outputs the response as model positions which represent the color values produced by the model image reproduction system in response to the input of the image data as positions in a second color space (transforming color values of initial color solid into Lab color values (column 6, lines 3-4), transforming color values of target color solid into $L^*a^*b^*$ color values (column 6, lines 5-6)); and c) determining second positions in the second color space based on the transformation positions and the model positions to determine optimized image data for the control of the image reproduction system (calculating the transformation table $L^*a^*b^*=f(\text{Lab})$ (column 6, lines 7-8), converting Lab color values of color image of initial process into $L^*a^*b^*$ color values of target process and reproducing color image in target

process (column 6, lines 9-14)). The image data can take on control values in a predetermined control value space (column 7, lines 6-10), and the model image reproduction system produces second model positions in response to all possible control values of the control value space which represent the color values which approximately spread the portion of the second color space reproducible by the model image reproduction system or at least encompass that portion (column 6, lines 5-8).

Regarding claims 11 and 14, Siegeritz discloses a photographic printer or photolab, comprising: a unit for receiving image data (scanner or photometer (Fig. 7A)); a data processing unit for processing the received image data according to the process of claim 1 to optimize the image data (note above regarding claim 1); and an image recording system for producing a photographic image based on the optimized image data on a recording medium, wherein the medium is paper or photographic paper (four-color printing (column 9, lines 34-37)).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siegeritz.

Claims 9 and 10 recite a program or computer storage media for performing the process of above-rejected claim 1. While not expressly disclosed in Siegeritz, it is well known in the art to provide means within an image processing apparatus, such as internal ROM, or external means, such as CD-ROM, storing programs for enabling the image processing apparatus or computer to perform image-processing tasks, in general. It would have been obvious for one of ordinary skill in the art to provide a program or computer storage media for performing the processing steps disclosed in Siegeritz, so that such steps may be conveniently performed on a computer.

12. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siegeritz as applied to claim 1 above, and further in view of International Publication WO 98/58493 (Marsden et al., hereinafter Marsden).

Regarding claim 3, Siegeritz does not expressly disclose a process according to claim 1, wherein "the transformation positions spread a transformation portion of the second color space and the model positions spread a model portion of the second color space, wherein the transformation portion and the model portion overlap in an overlapping portion of the second color space, and wherein: i) the determination of the

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second positions is more strongly influenced by the transformation positions than by the model positions when the second positions are closer to a gray value axis of the overlapping portion and/or when first positions corresponding to the second positions are closer to a gray value plane of a part of the first color space spreadable by the received image data; and/or ii) the determination of the second positions is more strongly influenced by the model positions than by the transformation positions when the second positions are located at an edge of the overlapping portion and/or when first positions corresponding to the second positions are closer to an edge of the first color space spreadable by the received image data; and/or iii) the determination of the second positions is more strongly influenced by the transformation positions than by the model positions when the second positions are closer to a center of the overlapping portion and/or when first positions corresponding to the second positions are closer to a center of the first color space spreadable by the received image data.” This limitation is disclosed in Marsden. According to Marsden, two color separation tables are produced as $CMYK_1$ and $CMYK_2$, wherein $CMYK_1$ is used when RGB is within the gamut by a predetermined amount, $CMYK_2$ is used when RGB is outside the gamut by a predetermined amount, and a blended value of $CMYK_1$ and $CMYK_2$ is used when RGB is near gamut surface by predetermined amount(s) (page 18, line 29 – page 19, line 19; Fig. 7), and thus one of the two color separation tables is predominant, depending on the RGB value in relation to the gamut surface. With this type of arrangement, a smooth transition between separation tables will be realized, and irregularities such as sharp transitions are prevented from appearing on the printed image (page 19, lines 11-

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12). Therefore, it would have been obvious for one of ordinary skill in the art to modify the teaching of Siegeritz, in such a manner as disclosed in Marsden.

Regarding claim 4, Marsden discloses the process of claim 3, wherein influencing of the determination of the second positions by the transformation positions and by the model positions is carried out such that the color values described by the second positions are a continual function of the image control data (as mentioned above, with the type of arrangement disclosed in Marsden, a smooth transition between separation tables will be realized, and irregularities such as sharp transitions are prevented from appearing on the printed image (page 19, lines 11-12)).

Regarding claims 5 and 6, Marsden discloses the process of claim 1, wherein for the determination of the second positions, position values are combined which describe the positions of the model positions and transformation positions in the second color space, thereby assigning a second position to each image control value (second position corresponds to blending output value, which is equal to $CMYK_1 (1-G) + CMYK_2 \times G$) (page 19, lines 5-6)).

13. Claims 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siegeritz as applied to claim 1 above, and further in view of European Publication 1014698 (Roetling).

Regarding claims 8 and 13, Siegeritz discloses the process of claim 1, wherein the first color space is a device dependent color space which is an RGB color space (column 7, lines 6-10), and the second color space is a device independent color space, which is a CIE-LAB or CIEXYZ color space (column 6, lines 3-14), wherein the model

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image reproduction system represents an idealized model of the image reproduction system (calculating color values for description of target color solid of target process (column 6, lines 1-2); transforming color values of target color solid into $L^*a^*b^*$ color values (column 6, lines 7-8)).

Siegeritz does not expressly disclose transforming the second positions into third positions which represent color values in a third color space which mirrors the color space of the non-idealized image reproduction system. Roetling discloses a method whereby device-biased image data may be converted back to original input image data (column 7, lines 20-24), which inherently comprises colors in the original color space. This enables a user to recover the original input image data, if desired (column 7, lines 20-30), and thus it would have been obvious for one of ordinary skill in the art to modify the teaching of Siegeritz by providing a step to convert transformed image data back to original input image data, as disclosed in Roetling.

Allowable Subject Matter

14. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to disclose or suggest a process according to claim 4, "wherein for a mathematical combination of position values of the second positions which describe brightness are determined from the corresponding position values of the transformation positions and the model positions by way of a weighting, wherein this

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first weighting is carried out depending on a location of the corresponding first positions and/or transformation positions and/or model positions relative to a gray value axis or to one or more points on the gray value axis; and/or wherein for a mathematical combination of those position values of the second positions which describe hue and/or color saturation are determined from the corresponding position values of the transformation positions and the model positions by way of a second weighting, wherein this second weighting is carried out depending on a location of the corresponding first positions, transformation positions and/or model positions relative to a next closest boundary surface or boundary of the portion of the respective color space respectively spreadable by the respective positions," as recited in claim 7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (571) 272-7436. The examiner can normally be reached on Monday-Friday, 7:30-5:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thomas D Lee
Primary Examiner
Technology Division 2625

tdl
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